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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/696,836	10/25/2000	jan Vanhoof	IMEC32.004C1	7447

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EXAMINER

DENNISON, JERRY B

ART UNIT	PAPER NUMBER
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2143

DATE MAILED: 06/13/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/696,836

Applicant(s)

VANHOOF ET AL.

Examiner

J. Bret Dennison

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 August 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 41-44, 52, 54-59, 67, 71, 73-75 and 77-97 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 41-44, 52, 54-59, 67, 71, 73-75 and 77-97 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This Action is in response to Preliminary Amendment for Application Number 09/696836 received on 25 October 2000.
2. Claims 45-51, 53, 60-66, 68-70, 72, and 76 have been cancelled.
3. Claims 77-97 are new.
4. Claims 41-44, 52, 54-59, 67, 71, 73-75, and 77-97 are presented for examination.

Double Patenting (Obviousness)

5. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

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Claims 41-44, 52, 54-59, 67, 71, 73-75, and 77-97 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-5 of U.S. Patent No. 6,212,566. Although the conflicting claims are not identical, they are not patentably distinct from each other because the difference being:

“defining a system specification for a heterogeneous digital system” in view of “defining a system specification for a digital system”;

“defining a single data independent data communication protocol” in view of defining a data communication protocol”;

“using memory free communication channels” in view of “using memoryless communication channels”; and

“said step of configuring data communication interfaces involving defining communication interfaces with input ports of a first process and output ports” in view of the limitation “to provide unidirectional, point-to-point connections between input ports of a first process and output ports of a second process”.

It would have been obvious for one in the ordinary skill in the art at the time of the invention to define a system specification for a heterogeneous digital system communication protocol, a single data independent data communication protocol, using memory free communication channels, and interface with input ports of a first process and output ports to provide unidirectional, point-to-point connections between input ports of a first process and output ports of a second process.

Claim Rejections - 35 USC § 102

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6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 41-44, 52, 54-59, 67, 71, 73-75, and 77-97 are rejected under 35 U.S.C. 102(e) as being anticipated by Hansen et al. (U.S. Patent Number 5,742,840).

7. Regarding claims 41 and 54, Hansen discloses a method for defining a system specification for a heterogeneous digital system, said method comprising the steps of:

partitioning said heterogeneous digital system into a plurality of processes, each of the processes having a defined behavior and each of the processes having at least one control thread (col. 3, lines 4-24, lines 41-43; col. 11, lines 19-41, col. 27, lines 5-15; Hansen teaches the general purpose media processor is partitionable to handle various types of media streams using multiple threads);

defining separately from said processes a single data independent data communication protocol for communication within said heterogeneous digital system and between said processes (col. 3, lines 4-24, lines 41-43; Hansen teaches a single instruction stream unifies various protocols for multimedia, graphics, security and network operations);

configuring data communication interfaces in the form of communication input ports and communication output ports for each of tile processes, the communication ports forming memory free communication channels (col. 2, lines 1-6, col. 3, lines 41-43, col. 5, lines 1-19; Hansen teaches the high bandwidth interface contains the required input/output, I/O to support interprocessor communications with external devices while using system protocols and accommodating sufficient signal space to minimize channel memory effects such as noise and echo); and

defining the system includes combining the results of the steps of partitioning, defining and configuring to define specifications for said plurality of processes to form said system specification (The above steps combined define the system specifications).

8. Regarding claims 55 and 67, Hansen discloses the features of the invention, substantially as claimed, as described in claim 54, including wherein said step of designing processors comprises the step of specifying a processor having specification which conform to the processes implemented (col. 5, lines 10-22, col. 13, lines 1-20. Hansen teaches that as many as 255 separate operations are capable of being implemented in the general purpose media processors. A microfiche appendix contains instruction sets, which can be loaded for processing, TABLE 1, These instruction sets are communicated to other processor ports across channels and links.)

9. Regarding claims 56, Hansen discloses the features of the invention, substantially as claimed, as described in claim 55, including wherein said processor

comprises a programmable, general purpose processor (see ABSTRACT, Hansen teaches wherein the processor comprises a programmable, general purpose processor).

10. Regarding claim 57, Hansen discloses the features of the invention, substantially as claimed, as described in claim 55, including wherein said processor comprises a programmable digital signal processor (col. 1, lines 27-36, Hansen teaches digital signal processors are required to process multimedia data at faster rates than have been achieved in the prior art, Figs 3-4, col. 10, lines 24-64, Specialized processors transmit data streams at higher data rates).

11. Regarding claim 58, Hansen discloses the features of the invention, substantially as claimed, as described in claim 55, including wherein said processor comprises a dedicated, custom processor (col. 10, line 65 through col. 11, line 18, Hansen teaches the general purpose media processor operates as a specialized processor, handling audio, video, graphics and network information simultaneously, therefore making more efficient use of processor resources.).

12. Regarding claim 59, Hansen discloses the features of the invention, substantially as claimed, as described in claim 55, including wherein said processor comprises custom logic circuitry with a controller such that the resulting digital system operates according to functional and real-time specifications (col. 4, line 62 through col. 5, line 9, col. 13, line 11 through col. 15, line 5, Figs 9a-c, Hansen teaches the memory controllers

in the high bandwidth interface transmit and receive media data formatted according to the needs of the user).

13. Regarding claims 71, 73, and 74, Hansen discloses the features of the invention, substantially as claimed, as described in claim 56, including wherein said communication channels are implemented in integrated circuit form for communications between a first processor and a second processor across a channel, the first and second processors selected from one or more of a plurality of processor types (col. 25, lines 48-64, col. 26, lines 50-63, Hansen teaches interprocessor operations between different processors can be implemented on one or more integrated circuit chips, Fig 19. Daemons coordinate these operations using system hardware such as another processor or a switch).

14. Regarding claim 75, Hansen discloses the features of the invention, substantially as claimed, as described in claim 57, including wherein said step of partitioning involves defining a library of auxiliary processes to simulate the digital system, the library of processes selected from a plurality of processes (col. 15, lines 55-65, Hansen teaches partitioning of processor must accommodate a variety of floating point operations using data of different bit-widths, these operations defined in software libraries).

15. Claims 42-44 and 52 are method claims which correlate to rejected claims 54-59 and 67, 69, 71, and 73-75 and are rejected on the same basis.

Response to Arguments

Applicant's arguments and amendments filed on 25 October 2000 have been carefully considered but they are not deemed fully persuasive. Applicant's arguments are deemed moot in view of the following new grounds of rejection as explained here below, necessitated by Applicant's substantial amendment (i.e., *by incorporating new limitations into the independent claims, which will require further search and consideration*) to the claims which significantly affected the scope thereof.

Applicant's arguments with respect to claims 41-44, 52, 54-59, 67, 71, 73-75, and 77-97 have been fully considered but they are not persuasive. Applicant's arguments include the failure of previously applied art to expressly disclose the teachings of "a method for defining a system specification for a heterogeneous digital system [see Applicant's Response, page 13]. Applicant arguments further include that the previously applied art teaches away from using.

It is evident from the mappings found in the above rejection that Hansen disclosed the teaching of a circuit chip which allows for installation of the general purpose media processor in the heterogeneous network [see Hansen, col. 27, lines 5-15]. This shows that the system of Hansen can be implemented within a heterogeneous fashion.

Regarding Applicant's decision to file a terminal disclaimer, Examiner appreciates Applicant's willingness to expedite prosecution.

Thus, Applicant's arguments drawn toward distinction of the claimed invention and the prior art teachings on this point are not considered persuasive. It is also clear

to the Examiner that Hansen clearly taught the independent claims of the Applicant's claimed invention.

Applicant's arguments with respect to claims 41-44, 52, 54-59, 67, 71, 73-75, and 77-97 are deemed moot in view of the following new grounds of rejection, necessitated by Applicant's amendment to the claims, which significantly affected the scope thereof.

Furthermore, as it is Applicant's right to continue to claim as broadly as possible their invention, it is also the Examiner's right to continue to interpret the claim language as broadly as possible. It is the Examiner's position that the detailed functionality that allows for Applicant's invention to overcome the prior art used in the rejection, fails to differentiate in detail how these features are unique. As it is extremely well known in the networking art as already shown by Hansen as well as other prior arts of records disclosed, a system for defining a system specification for a heterogeneous digital system is taught as well as other claimed features of Applicant's invention. By the rejection above, the applicant must submit amendments to the claims in order to distinguish over the prior art use in the rejection that discloses different features of Applicant's claimed invention.

It is the Examiner's position that Applicant has not yet submitted claims drawn to limitations, which define the operation and apparatus of Applicant's disclosed invention in manner, which distinguishes over the prior art.

Failure for Applicant to significantly narrow definition/scope of the claims and supply arguments commensurate in scope with the claims implies the Applicant intends broad interpretation be given to the claims. The Examiner has interpreted the claims

with scope parallel to the Applicant in the response and reiterates the need for the Applicant to more clearly and distinctly define the claimed invention.

Conclusion

Examiner's Note: Examiner has cited particular columns and line numbers in the references applied to the claims above for the convenience of the applicant.

Although the specified citations are representative of the teachings of the art and are applied to specific limitations within the individual claim, other passages and figures may apply as well. It is respectfully requested from the applicant in preparing responses, to fully consider the references in entirety as potentially teaching all or part of the claimed invention, as well as the context of the passage as taught by the prior art or disclosed by the Examiner.

In the case of amending the claimed invention, Applicant is respectfully requested to indicate the portion(s) of the specification which dictate(s) the structure relied on for proper interpretation and also to verify and ascertain the metes and bounds of the claimed invention.

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not

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mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

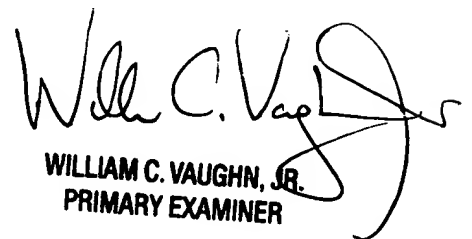
Any inquiry concerning this communication or earlier communications from the examiner should be directed to J. Bret Dennison whose telephone number is (571)272-3910. The examiner can normally be reached on M-F 8:30am-5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David A Wiley can be reached on (703)308-5221. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



J. B. D.
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Art Unit 2143



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